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### II. LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application.

# 1. (Original) A compound of formula I:

Ι

wherein

W, X, Y and Z are independently selected from the group consisting of CH,  $CR^4$ , N and N-O; provided that at least one and no more than two of W, X, Y and Z are N or N-O;

R<sup>1</sup> is a group of formula (a):

$$--(CH_2)_a - (O)_b - (CH_2)_c - (a)$$

wherein each  $-CH_2$ - group in formula (a) and the  $-CH_2$ - group between the piperidine nitrogen atom and the ring containing W, X, Y and Z in formula I is optionally substituted with 1 or 2 substituents independently selected from the group consisting of  $C_{1-2}$  alkyl and fluoro; wherein each alkyl group is optionally substituted with 1 to 3 fluoro substituents;

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 $R^2$  is selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $-CH_2-R^5$  and  $-(CH_2)_x-R^6$ ; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substituents;

each  $R^3$  is independently selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $-CH_2-R^7$  and  $-(CH_2)_y-R^8$ ; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents;

each  $R^4$  is independently selected from the group consisting of  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $-OR^3$  and halo; or two adjacent  $R^4$  groups are joined to form  $C_{3-6}$  alkylene,  $-O-(C_{2-4}$  alkylene)- $-, -O-(C_{1-4}$  alkylene)- $O-, -O-(C_{1-4}$  alkylene)- $O-, -O-(C_{1-6}$  alkylene)- $O-(C_{2-5}$  alkylene)- $O-(C_{2-5}$  alkylene)- $O-(C_{1-5}$  alkylene)- $O-(C_{$ 

each  $R^5$  and  $R^7$  is independently selected from the group consisting of  $C_{3-5}$  cycloalkyl,  $C_{6-10}$  aryl,  $-C(O)(C_{6-10}$  aryl),  $C_{2-9}$  heteroaryl,  $-C(O)(C_{2-9}$  heteroaryl) and  $C_{3-6}$  heterocyclic; wherein the cycloalkyl group is optionally substituted with 1 to 5 fluoro substituents; and the aryl, heteroaryl and heterocyclic groups are optionally substituted with 1 to 3 substituents independently selected from  $R^k$  and the aryl and heteroaryl groups are optionally further substituted with a phenyl group, where the phenyl group is optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;

each  $R^6$  and  $R^8$  is independently selected from the group consisting of -OH,  $-OR^9$ ,  $-SR^9$ ,  $-S(O)R^9$ ,  $-S(O)_2R^9$ ,  $-C(O)R^9$ ,  $C_{3-5}$  cycloalkyl,  $C_{6-10}$  aryl,  $C_{2-9}$  heteroaryl and  $C_{3-6}$  heterocyclic; wherein the cycloalkyl group is optionally substituted with 1 to 5 fluoro substituted; and the aryl, heteroaryl and heterocyclic groups are optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;

each  $R^9$  is independently selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{3-5}$  cycloalkyl,  $C_{6-10}$  aryl and  $C_{2-9}$  heteroaryl; wherein the alkyl and cycloalkyl groups are

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optionally substituted with 1 to 5 fluoro substituents; and the aryl and heteroaryl groups are optionally substituted with 1 to 3 substituents independently selected from R<sup>k</sup>;

each  $R^a$  and  $R^b$  is independently selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl,  $C_{3-6}$  cycloalkyl, cyano, halo,  $-OR^f$ ,  $-SR^f$ ,  $-S(O)R^f$ ,  $-S(O)_2R^f$  and  $-NR^gR^h$ ; or two adjacent  $R^a$  groups or two adjacent  $R^b$  groups are joined to form  $C_{3-6}$  alkylene,  $-(C_{2-4}$  alkylene)-O- or  $-O-(C_{1-4}$  alkylene)-O-; wherein each alkyl, alkylene, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents;

each  $R^c$  and  $R^d$  is independently selected from the group consisting of  $C_{1-4}$  alkyl and fluoro; wherein each alkyl group is optionally substituted with 1 to 5 fluoro substitutents;

each  $R^e$  is independently selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $C_{6-10}$  aryl,  $C_{2-9}$  heteroaryl,  $C_{3-6}$  heterocyclic,  $-CH_2-R^i$  and  $-CH_2CH_2-R^j$ ; or both  $R^e$  groups are joined together with the nitrogen atom to which they are attached to form  $C_{3-6}$  heterocyclic; wherein each alkyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents; and each aryl, heteroaryl and heterocyclic group is optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;

each  $R^f$  is independently selected from the group consisting hydrogen,  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl and  $C_{3-6}$  cycloalkyl; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents;

each  $R^g$  and  $R^h$  is independently selected from the group consisting of hydrogen,  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl and  $C_{3-6}$  cycloalkyl; or  $R^g$  and  $R^h$  are joined together with the nitrogen atom to which they are attached to form  $C_{3-6}$  heterocyclic; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents, and the heterocyclic group is optionally substituted with 1 to 3 substitutents independently selected from  $C_{1-4}$  alkyl and fluoro;

each  $R^i$  is independently selected from the group consisting of  $C_{3-6}$  cycloalkyl,  $C_{6-10}$  aryl,  $C_{2-9}$  heteroaryl and  $C_{3-6}$  heterocyclic; wherein aryl, cycloalkyl, heteroaryl and

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heterocyclic group is optionally substituted with 1 to 3 substituents independently selected from R<sup>k</sup>;

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each R^j is independently selected from the group consisting of C_{3-6} cycloalkyl, C_{6-10} aryl, C_{2-9} heteroaryl, C_{3-6} heterocyclic, -OH, -O(C_{1-6} alkyl), -O(C_{3-6} cycloalkyl), -O(C_{6-10} aryl), -O(C_{2-9} heteroaryl), -S(C_{1-6} alkyl), -S(O)(C_{1-6} alkyl), -S(O)_2(C_{1-6} alkyl), -S(O)_2(C_{3-6} cycloalkyl), -S(O)_2(C_{3-6} cycloalkyl), -S(O)_2(C_{3-6} cycloalkyl), -S(O)_2(C_{3-6} aryl), -S(O)_2(C_{3-6} aryl), -S(O)_2(C_{3-9} heteroaryl) and -S(O)_2(C_{2-9} heteroaryl); wherein each alkyl group is optionally substituted with 1 to 5 fluoro substitutents; and each aryl, cycloalkyl, heteroaryl and heterocyclic group is optionally substituted with 1 to 3 substituents independently selected from R^k;
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each  $R^k$  is independently selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl, cyano, halo,  $-OR^f$ ,  $-SR^f$ ,  $-S(O)R^f$ ,  $-S(O)_2R^f$  and  $-NR^gR^h$ ; or two adjacent  $R^k$  groups are joined to form  $C_{3-6}$  alkylene,  $-(C_{2-4}$  alkylene)-O- or  $-O-(C_{1-4}$  alkylene)-O-; wherein each alkyl, alkylene, alkenyl and alkynyl group is optionally substituted with 1 to 5 fluoro substitutents;

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a is an integer from 2 to 7;
b is 0 or 1;
c is an integer from 2 to 7; provided that a + b + c equals 7, 8 or 9;
m is an integer from 0 to 3;
n is an integer from 0 to 3;
p is 1 or 2;
q is an integer from 0 to 4;
r is an integer from 2 to 4;
y is an integer from 2 to 4;
or a pharmaceutically-acceptable salt or solvate or stereoisomer thereof.
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2. (Original) The compound according to Claim 1, wherein  $R^1$  is selected from the group consisting of  $-(CH_2)_7$ ,  $-(CH_2)_8$ ,  $-(CH_2)_9$ ,  $-(CH_2)_2$ ,  $-(CH_2)_4$ ,

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$$-(CH_2)_2-O-(CH_2)_5-,-(CH_2)_2-O-(CH_2)_6-,-(CH_2)_3-O-(CH_2)_3-,-(CH_2)_3-O-(CH_2)_4-,\\ -(CH_2)_3-O-(CH_2)_5-,-(CH_2)_4-O-(CH_2)_2-,-(CH_2)_4-O-(CH_2)_3-,\\ -(CH_2)_4-O-(CH_2)_4-,-(CH_2)_5-O-(CH_2)_2-,-(CH_2)_5-O-(CH_2)_3- \text{ and }\\ -(CH_2)_6-O-(CH_2)_2-.$$

- 3. (Original) The compound according to Claim 2, wherein  $R^1$  is  $-(CH_2)_{7^-}$ ,  $-(CH_2)_{8^-}$ ,  $-(CH_2)_{9^-}$ ,  $-(CH_2)_{3^-}$  or  $-(CH_2)_{4^-}$ .
  - 4. (Original) The compound according to Claim 3, wherein  $R^1$  is  $-(CH_2)_7$ .
  - 5. (Original) The compound according to Claim 1, wherein R<sup>2</sup> is C<sub>1-4</sub> alkyl; wherein the alkyl group is optionally substituted with 1 to 3 fluoro substituents.
  - 6. (Original) The compound according to Claim 5, wherein R<sup>2</sup> is selected from the group consisting of methyl, ethyl, n-propyl, isopropyl, n-butyl and isobutyl.
    - 7. (Original) The compound according to Claim 1, wherein R<sup>2</sup> is -CH<sub>2</sub>-R<sup>5</sup>.
  - 8. (Original) The compound according to Claim 7, wherein R<sup>2</sup> is selected from the group consisting of:
  - (a) -CH<sub>2</sub>-(C<sub>3-5</sub> cycloalkyl); wherein the cycloalkyl group is optionally substituted with 1 to 3 fluoro substituents;
  - (b) -CH<sub>2</sub>-(phenyl), wherein the phenyl group is optionally substituted with 1 to 3 substituents independently selected from R<sup>k</sup>;
  - (c)  $-CH_2$ -(naphthyl); wherein the naphthyl group is optionally substituted with 1 to 3 substituents independently selected from  $\mathbb{R}^k$ ;
  - (d) -CH<sub>2</sub>-(biphenyl), wherein each phenyl ring of the biphenyl group is optionally substituted with 1 to 3 substituents independently selected from R<sup>k</sup>;

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- (e) -CH<sub>2</sub>-(pyridyl); wherein the pyridyl group is optionally substituted with 1 to 3 substituents independently selected from R<sup>k</sup>; and
- (f)  $-CH_2C(O)$ -(phenyl), wherein the phenyl ring of the phenacyl group is optionally substituted with 1 to 3 substituents independently selected from  $\mathbb{R}^k$ .
- 9. (Original) The compound according to Claim 8, wherein R<sup>2</sup> is selected from the group consisting of cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, benzyl, 4-cyanobenzyl, 4-methylbenzyl, 4-trifluoromethoxybenzyl, 4-difluoromethoxybenzyl, 4-thiomethoxybenzyl, 4-methanesulfonylbenzyl, 4-tert-butylbenzyl, 4-phenylbenzyl, pyridyl-2-ylmethyl, pyrid-3-ylmethyl, napthth-2-ylmethyl, 3-cyanophenacyl, and 3,4-ethylenedioxyphenacyl.
- 10. (Original) The compound according to Claim 1, wherein  $R^2$  is  $-(CH_2)_x-R^6$ , wherein x is 2, 3 or 4.
- 11. (Original) The compound according to Claim 10, wherein R<sup>2</sup> is selected from the group consisting of:
  - (a)  $-(CH_2)_x-OH;$
- (b)  $-(CH_2)_x-O(C_{1-4} \text{ alkyl})$ ; wherein the alkyl group is optionally substituted with 1 to 3 fluoro substituents;
- (c)  $-(CH_2)_x-S(C_{1-4} \text{ alkyl})$ ,  $-(CH_2)_x-S(O)(C_{1-4} \text{ alkyl})$ , or  $-(CH_2)_x-S(O)_2(C_{1-4} \text{ alkyl})$ ; wherein the alkyl group is optionally substituted with 1 to 3 fluoro substituents;
- (d)  $-(CH_2)_x$ -(phenyl), wherein the phenyl group is optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;
- (e)  $-(CH_2)_x$ -(O-phenyl), wherein the phenyl group is optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;
- (f)  $-(CH_2)_x$ -(naphthyl), wherein the naphthyl group is optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ; and

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- (g)  $-(CH_2)_x$ -(indolyl), wherein the indolyl group is optionally substituted with 1 to 3 substituents independently selected from  $R^k$ .
- 12. (Original) The compound according to Claim 11, wherein R<sup>2</sup> is selected from the group consisting of 2-hydroxyethyl, 2-methoxyethyl, 2-(methylthio)ethyl, 2-ethoxyethyl, 2-(ethylthio)ethyl, 2-(2,2,2-trifluoroethoxy)ethyl, 2-phenethyl, 2-(naphth-1-yl)ethyl, 2-(indol-3-yl)ethyl, 3-hydroxypropyl, 3-methoxypropyl, 3-ethoxypropyl, 3-phenylpropyl and 3-phenoxypropyl.
- 13. (Original) The compound according to Claim 1, wherein R<sup>2</sup> is ethyl, n-propyl, isopropyl, cyclopropylmethyl or 2-hydroxyethyl.
- 14. (Original) The compound according to Claim 1, wherein each R<sup>3</sup> is independently selected from the group consisting of hydrogen, C<sub>1-4</sub> alkyl, cyclopropylmethyl and 2-hydroxyethyl; wherein each alkyl group is optionally substituted with 1 to 5 fluoro substituents.
- 15. (Original) The compound according to Claim 14, wherein each R<sup>3</sup> is independently selected from the group consisting of hydrogen, methyl, ethyl, *n*-propyl, isopropyl, difluoromethyl, trifluoromethyl, 2,2,2-trifluoroethyl, 1,3-difluoroprop-2-yl, 1,1,3,-trifluoroprop-2-yl, and 1,1,3,3-tetrafluoroprop-2-yl.
- 16. (Original) The compound according to Claim 1, wherein  $R^4$  is selected from the group consisting of  $C_{1-4}$  alkyl,  $-OR^3$  and halo; wherein the alkyl group is optionally substituted with 1 to 5 fluoro substituents.
- 17. (Original) The compound according to Claim 16, wherein R<sup>4</sup> is methyl, -OR<sup>3</sup>, fluoro or chloro.

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- 18. (Original) The compound according to Claim 1, wherein W, X, Y and Z are defined as follows:
  - (a) W is N; X is CH; Y is CH; and Z is CH;
  - (b) W is CH or  $CR^4$ ; X is N; Y is CH and Z is CH;
  - (c) W is CH or  $\mathbb{CR}^4$ ; X is CH; Y is N; and Z is CH;
  - (d) W is CH or  $\mathbb{CR}^4$ ; X is CH; Y is CH; and Z is N; or
  - (e) W is CH; X is N; Y is CH and Z is CH.
- 19. (Original) The compound according to Claim 18, wherein W is CH; X is N; Y is CH and Z is CH.
  - 20. (Original) A compound of formula II:

 $\mathbf{II}$ 

wherein

W, X, Y and Z are independently selected from the group consisting of CH,  $CR^4$ , N and N-O; provided that at least one and no more than two of W, X, Y and Z are N or N-O;

R<sup>1</sup> is a group of formula (a):

$$--(CH_2)_a - (O)_b - (CH_2)_c - (a)$$

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wherein each  $-CH_2$ - group in formula (a) and the  $-CH_2$ - group between the piperidine nitrogen atom and the ring containing W, X, Y and Z in formula II is optionally substituted with 1 or 2 substituents independently selected from the group consisting of  $C_{1-2}$  alkyl and fluoro; wherein each alkyl group is optionally substituted with 1 to 3 fluoro substituents;

 $R^2$  is selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $-CH_2-R^5$  and  $-(CH_2)_x-R^6$ ; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substituents;

each  $R^3$  is independently selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $-CH_2-R^7$  and  $-(CH_2)_y-R^8$ ; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents;

each  $R^4$  is independently selected from the group consisting of  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $-OR^3$  and halo; or two adjacent  $R^4$  groups are joined to form  $C_{3-6}$  alkylene,  $-O-(C_{2-4}$  alkylene)-,  $-O-(C_{1-4}$  alkylene)- $O-(C_{1-6}$  alkylene) or  $-O-(C_{1-6}$  alkylene)- or  $-O-(C_{1-6}$  alkylene)-  $O-(C_{2-6}$  alkylene)- or  $-O-(C_{1-6}$  alkylene)-  $O-(C_{2-6}$  alkylene) alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents;

each  $R^5$  and  $R^7$  is independently selected from the group consisting of  $C_{3-5}$  cycloalkyl,  $C_{6-10}$  aryl,  $-C(O)(C_{6-10}$  aryl),  $C_{2-9}$  heteroaryl,  $-C(O)(C_{2-9}$  heteroaryl) and  $C_{3-6}$  heterocyclic; wherein the cycloalkyl group is optionally substituted with 1 to 5 fluoro substituents; and the aryl, heteroaryl and heterocyclic groups are optionally substituted with 1 to 3 substituents independently selected from  $R^k$  and the aryl and heteroaryl groups are optionally further substituted with a phenyl group, where the phenyl group is optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;

each  $R^6$  and  $R^8$  is independently selected from the group consisting of -OH, -OR<sup>9</sup>, -SR<sup>9</sup>, -S(O)R<sup>9</sup>, -S(O)<sub>2</sub>R<sup>9</sup>, -C(O)R<sup>9</sup>, C<sub>3-5</sub> cycloalkyl, C<sub>6-10</sub> aryl, C<sub>2-9</sub> heteroaryl and C<sub>3-6</sub> heterocyclic; wherein the cycloalkyl group is optionally substituted with 1 to 5

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fluoro substituents; and the aryl, heteroaryl and heterocyclic groups are optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;

each  $R^9$  is independently selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{3-5}$  cycloalkyl,  $C_{6-10}$  aryl and  $C_{2-9}$  heteroaryl; wherein the alkyl and cycloalkyl groups are optionally substituted with 1 to 5 fluoro substituents; and the aryl and heteroaryl groups are optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;

each  $R^f$  is independently selected from the group consisting hydrogen,  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl and  $C_{3-6}$  cycloalkyl; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents;

each  $R^g$  and  $R^h$  is independently selected from the group consisting of hydrogen,  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl and  $C_{3-6}$  cycloalkyl; or  $R^g$  and  $R^h$  are joined together with the nitrogen atom to which they are attached to form  $C_{3-6}$  heterocyclic; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents, and the heterocyclic group is optionally substituted with 1 to 3 substitutents independently selected from  $C_{1-4}$  alkyl and fluoro;

each  $R^k$  is independently selected from the group consisting of  $C_{1.4}$  alkyl,  $C_{2.4}$  alkenyl,  $C_{2.4}$  alkynyl, cyano, halo,  $-OR^f$ ,  $-SR^f$ ,  $-S(O)R^f$ ,  $-S(O)_2R^f$  and  $-NR^gR^h$ ; or two adjacent  $R^k$  groups are joined to form  $C_{3.6}$  alkylene,  $-(C_{2.4}$  alkylene)-O- or  $-O-(C_{1.4}$  alkylene)-O-; wherein each alkyl, alkylene, alkenyl and alkynyl group is optionally substituted with 1 to 5 fluoro substitutents;

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a is an integer from 2 to 7;
b is 0 or 1;
c is an integer from 2 to 7; provided that a + b + c equals 7, 8 or 9;
x is an integer from 2 to 4;
y is an integer from 2 to 4;
or a pharmaceutically-acceptable salt or solvate or stereoisomer thereof.
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21. (Original) The compound according to Claim 20, wherein R^1 is -(CH_2)_{7}, -(CH_2)_{8}, -(CH_2)_{9}, -(CH_2)_{3}- O-(CH_2)_{3}- or -(CH_2)_{4}- O-(CH_2)_{4}-.
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- 22. (Original) The compound according to Claim 21, wherein R<sup>2</sup> is C<sub>1-4</sub> alkyl; wherein the alkyl group is optionally substituted with 1 to 3 fluoro substituents.
- 23. (Original) The compound according to Claim 22, wherein each R<sup>3</sup> is independently selected from the group consisting of hydrogen, C<sub>1-4</sub> alkyl, cyclopropylmethyl and 2-hydroxyethyl; wherein each alkyl group is optionally substituted with 1 to 5 fluoro substituents.
  - 24. (Original) The compound according to Claim 23, wherein  $R^1$  is  $-(CH_2)_{7}$ ;

 $R^2$  is selected from the group consisting of methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl and isobutyl; and

each R<sup>3</sup> is independently selected from the group consisting of hydrogen, methyl, ethyl, *n*-propyl, isopropyl, difluoromethyl, trifluoromethyl, 2,2,2-trifluoroethyl, 1,3-difluoroprop-2-yl, 1,1,3,-trifluoroprop-2-yl, and 1,1,3,3-tetrafluoroprop-2-yl.

25. (Original) A compound of formula III:

 $\mathbf{m}$ 

wherein

R<sup>1</sup> is a group of formula (a):

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$$---(CH_2)_a ---(O)_b ---(CH_2)_c ---$$
 (a)

wherein each  $-CH_2$ - group in formula (a) and the  $-CH_2$ - group between the piperidine nitrogen atom and the pyridine ring in formula III is optionally substituted with 1 or 2 substituents independently selected from the group consisting of  $C_{1-2}$  alkyl and fluoro; wherein each alkyl group is optionally substituted with 1 to 3 fluoro substituents;

 $R^2$  is selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $-CH_2-R^5$  and  $-(CH_2)_x-R^6$ ; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substituents;

each  $R^3$  is independently selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl,  $C_{2-6}$  alkenyl,  $C_{2-6}$  alkynyl,  $C_{3-6}$  cycloalkyl,  $-CH_2-R^7$  and  $-(CH_2)_y-R^8$ ; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents:

each  $R^5$  and  $R^7$  is independently selected from the group consisting of  $C_{3-5}$  cycloalkyl,  $C_{6-10}$  aryl,  $-C(O)(C_{6-10}$  aryl),  $C_{2-9}$  heteroaryl,  $-C(O)(C_{2-9}$  heteroaryl) and  $C_{3-6}$  heterocyclic; wherein the cycloalkyl group is optionally substituted with 1 to 5 fluoro substituents; and the aryl, heteroaryl and heterocyclic groups are optionally substituted with 1 to 3 substituents independently selected from  $R^k$  and the aryl and heteroaryl groups are optionally further substituted with a phenyl group, where the phenyl group is optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;

each  $R^6$  and  $R^8$  is independently selected from the group consisting of -OH, -OR<sup>9</sup>, -SR<sup>9</sup>, -S(O)R<sup>9</sup>, -S(O)<sub>2</sub>R<sup>9</sup>, -C(O)R<sup>9</sup>, C<sub>3-5</sub> cycloalkyl, C<sub>6-10</sub> aryl, C<sub>2-9</sub> heteroaryl and C<sub>3-6</sub> heterocyclic; wherein the cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents; and the aryl, heteroaryl and heterocyclic groups are optionally substituted with 1 to 3 substituents independently selected from  $R^k$ ;

each  $R^9$  is independently selected from the group consisting of  $C_{1-4}$  alkyl,  $C_{3-5}$  cycloalkyl,  $C_{6-10}$  aryl and  $C_{2-9}$  heteroaryl; wherein the alkyl and cycloalkyl groups are

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optionally substituted with 1 to 5 fluoro substituents; and the aryl and heteroaryl groups are optionally substituted with 1 to 3 substituents independently selected from R<sup>k</sup>;

each  $R^f$  is independently selected from the group consisting hydrogen,  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl and  $C_{3-6}$  cycloalkyl; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents;

each  $R^g$  and  $R^h$  is independently selected from the group consisting of hydrogen,  $C_{1-4}$  alkyl,  $C_{2-4}$  alkenyl,  $C_{2-4}$  alkynyl and  $C_{3-6}$  cycloalkyl; or  $R^g$  and  $R^h$  are joined together with the nitrogen atom to which they are attached to form  $C_{3-6}$  heterocyclic; wherein each alkyl, alkenyl, alkynyl and cycloalkyl group is optionally substituted with 1 to 5 fluoro substitutents, and the heterocyclic group is optionally substituted with 1 to 3 substitutents independently selected from  $C_{1-4}$  alkyl and fluoro;

each  $R^k$  is independently selected from the group consisting of  $C_{1.4}$  alkyl,  $C_{2.4}$  alkenyl,  $C_{2.4}$  alkynyl, cyano, halo,  $-OR^f$ ,  $-SR^f$ ,  $-S(O)R^f$ ,  $-S(O)_2R^f$  and  $-NR^gR^h$ ; or two adjacent  $R^k$  groups are joined to form  $C_{3.6}$  alkylene,  $-(C_{2.4}$  alkylene)-O- or  $-O-(C_{1.4}$  alkylene)-O-; wherein each alkyl, alkylene, alkenyl and alkynyl group is optionally substituted with 1 to 5 fluoro substitutents;

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a is an integer from 2 to 7;
b is 0 or 1;
c is an integer from 2 to 7; provided that a + b + c equals 7, 8 or 9;
x is an integer from 2 to 4;
y is an integer from 2 to 4;
or a pharmaceutically-acceptable salt or solvate or stereoisomer thereof.
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- 26. (Original) The compound according to Claim 25, wherein  $R^1$  is  $-(CH_2)_{7^-}$ ,  $-(CH_2)_{8^-}$ ,  $-(CH_2)_{9^-}$ ,  $-(CH_2)_{3^-}$  Or  $-(CH_2)_{4^-}$  Or  $-(CH_2)_{4^-}$ .
- 27. (Original) The compound according to Claim 26, wherein R<sup>2</sup> is C<sub>1.4</sub> alkyl; wherein the alkyl group is optionally substituted with 1 to 3 fluoro substituents.

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- 28. (Original) The compound according to Claim 27, wherein each R<sup>3</sup> is independently selected from the group consisting of hydrogen, C<sub>1-4</sub> alkyl, cyclopropylmethyl and 2-hydroxyethyl; wherein each alkyl group is optionally substituted with 1 to 5 fluoro substituents.
  - 29. (Original) The compound according to Claim 28, wherein  $R^1$  is  $-(CH_2)_{7-}$ ;

 $\mathbb{R}^2$  is selected from the group consisting of methyl, ethyl, n-propyl, isopropyl, n-butyl and isobutyl; and

R<sup>3</sup> is selected from the group consisting of hydrogen, methyl, ethyl, *n*-propyl, isopropyl, difluoromethyl, trifluoromethyl, 2,2,2-trifluoroethyl, 1,3-difluoroprop-2-yl, 1,1,3,-trifluoroprop-2-yl, and 1,1,3,3-tetrafluoroprop-2-yl.

- 30. (Original) A compound selected from the group consisting of:
  - 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hept-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
  - $4-\{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxahept-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;$
  - $4-\{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxahept-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;$
  - 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hept-1-yl]-N-(ethyl)amino}-1-(2-methoxypyrid-3-ylmethyl)piperidine;
  - 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hept-1-yl]-N-(ethyl)amino}-1-(3-methoxypyrid-2-ylmethyl)piperidine;
  - 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hept-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
  - $4-\{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxahept-1-yl]-N-(ethyl)amino\}-1-(4-methoxypyrid-3-ylmethyl)piperidine;$

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- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)oct-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)non-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxahept-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxaoct-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxanon-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxaoct-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxanon-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxahept-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxaoct-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxanon-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- $4-\{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxaoct-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;$
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxanon-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-7-oxanon-1-yl]-N-(ethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- $4-\{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)oct-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;$

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- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)non-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxahept-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxaoct-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxanon-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxahep-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxaoct-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxanon-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxahept-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxaoct-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxanon-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxaoct-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxanon-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-7-oxanon-1-yl]-N-(prop-1-yl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-n-propoxypyrid-3-ylmethyl)piperidine;

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- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-I-(4-isopropoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-cyclopropyl-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-{4-(2-hydroxyethoxy)pyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-isobutoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(2,4-dimethoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(2-fluoro-4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(2-chloro-4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(2-methyl-4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)oct-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)non-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(3-methoxypyrid-2-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)oct-1-yl]-N-(isopropyl)amino}-1-(3-methoxypyrid-2-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)non-1-yl]-N-(isopropyl)amino}-1-(3-methoxypyrid-2-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(3-methoxypyrid-4-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)oct-1-yl]-N-(isopropyl)amino}-1-(3-methoxypyrid-4-ylmethyl)piperidine;

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- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)non-1-yl]-N-(isopropyl)amino}-1-(3-methoxypyrid-4-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(2-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)oct-1-yl]-N-(isopropyl)amino}-1-(2-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)non-1-yl]-N-(isopropyl)amino}-1-(2-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxahept-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxaoct-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxanon-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxahep-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxanon-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxaoct-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxanon-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxaoct-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxanon-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-7-oxanon-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;

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- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)oct-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)non-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxahept-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxaoct-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxanon-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxahep-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxaoct-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxanon-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-{7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxahept-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxaoct-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxanon-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxaoct-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxanon-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-7-oxanon-1-yl]-N-(cyclopropylmethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;

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- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)oct-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- $4-\{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)non-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;$
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxahept-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxaoct-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-3-oxanon-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxahep-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxaoct-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-4-oxanon-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxahept-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxaoct-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-5-oxanon-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[8-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxaoct-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-6-oxanon-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;

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- 4-{N-[9-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)-7-oxanon-1-yl]-N-(2-hydroxyethyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-tert-butoxypyrid-3-ylmethyl)piperidine;
- $4-\{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-hydroxypyrid-3-ylmethyl)piperidine;$
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-ethoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-trifluoromethoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-difluoromethoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-methoxy-2-trifluoromethoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl}-N-(isopropyl)amino}-1-(2-difluoromethoxy-4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(2-methoxy-4-trifluoromethoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-difluoromethoxy-2-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-{2,4-di(trifluoromethoxy)pyrid-3-ylmethyl}piperidine;
- $4-\{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-\{2,4-di(difluoromethoxy)pyrid-3-ylmethyl)piperidine;$
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(2-ethoxy-4-trifluoromethoxypyrid-3-ylmethyl)piperidine;

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- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(2-ethoxy-4-difluoromethoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(2,4-diethoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-(N-methylcarbamoyl)-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-(N,N-dimethylcarbamoyl)-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-hydroxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-(N,N-diethylcarbamoyl)-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-hydroxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-(piperidin-1-ylcarbonyl)-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-hydroxypyrid-3-ylmethyl)piperidine;
- 4-{N-[7-(3-(S)-1-(morpholin-4-ylcarbonyl)-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-hydroxypyrid-3-ylmethyl)piperidine; and
- 4-{N-[7-(3-(S)-1-Carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-[4-(2-fluoroethoxy)pyrid-3-ylmethyl]piperidine;
- 4-{N-[7-(3-(R)-1-Carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine; and
- $4-{N-[7-(3-(R)-1-Carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hep-1-yl}-N-(isopropyl)amino}-1-(4-ethoxypyrid-3-ylmethyl)piperidine;$

or a pharmaceutically-acceptable salt or solvate or stereoisomer thereof.

31. (Original) 4-{N-[7-(3-(S)-1-Carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hept-1-yl]-N-(isopropyl)amino}-1-(4-methoxypyrid-3-ylmethyl)piperidine; or a pharmaceutically-acceptable salt or solvate thereof.

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- 32. (Original) 4-{N-[7-(3-(S)-1-Carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hept-1-yl]-N-(isopropyl)amino}-1-(4-ethoxypyrid-3-ylmethyl)piperidine; or a pharmaceutically-acceptable salt or solvate thereof.
- 33. (Original) 4-{N-[7-(3-(S)-1-Carbamoyl-1,1-diphenylmethyl)pyrrolidin-1-yl)hept-1-yl]-N-(isopropyl)amino}-1-(4-isopropoxypyrid-3-ylmethyl)piperidine; or a pharmaceutically-acceptable salt or solvate thereof.
  - 34. (Withdrawn) A compound of formula IV:

$$(R^{a})_{m}$$
 $N(R^{e})_{2}$ 
 $N-(CH_{2})_{a}-(O)_{b}-(CH_{2})_{c}-OH_{2}$ 
 $(R^{b})_{c}$ 

IV

wherein  $R^a$ ,  $R^b$ ,  $R^c$ ,  $R^e$ , a, b, c, m, n, p and q are as defined in Claim 1, or a salt or stereoisomer or protected derivative thereof;

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## 35. (Withdrawn) A compound of formula V:

$$(R^{a})_{m}$$
 $N(R^{e})_{2}$ 
 $(R^{b})_{n}$ 
 $(R^{c})_{q}$ 
 $(R^{c})_{q}$ 
 $V$ 

wherein  $R^a$ ,  $R^b$ ,  $R^c$ ,  $R^e$ , a, b, c, m, n, p and q are as defined in Claim 1, and G is selected from the group consisting of:

- -CHO;
- -CH(OR<sup>m</sup>), where  $R^m$  is  $C_{1-6}$  alkyl, or both  $R^m$  groups are joined to form  $C_{2-6}$  alkylene;
  - -COOH; and
  - -CH=CH<sub>2</sub>;
  - -CH<sub>2</sub>-L, where L is a leaving group;

or a salt or stereoisomer or protected derivative thereof;

#### 36. (Withdrawn) A compound of formula VI:

$$(R^{a})_{m}$$
 $N(R^{e})_{2}$ 
 $N-(CH_{2})_{d}-(O)_{b}-(CH_{2})_{e}-C\equiv C-H$ 
 $(R^{b})_{n}$ 

VI

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wherein  $R^a$ ,  $R^b$ ,  $R^c$ ,  $R^c$ , b, m, n, p and q are as defined in Claim 1; d is an integer from 2 to 5; e is an integer from 1 to 4, provided that d + b + e + 3 equals 7, 8 or 9; or a salt or stereoisomer or protected derivative thereof.

#### 37. (Withdrawn) A compound of formula VII:

$$(R^{a})_{m}$$
 $N(R^{e})_{2}$ 
 $(R^{d})_{r}$ 
 $N-(CH_{2})_{a}-(O)_{b}-(CH_{2})_{c}-N$ 
 $N+(CH_{2})_{a}$ 

VII

wherein  $R^2$ ,  $R^a$ ,  $R^b$ ,  $R^c$ ,  $R^d$ ,  $R^e$ , a, b, c, m, n, p, q and r are as defined in Claim 1; or a salt or stereoisomer or protected derivative thereof.

#### 38. (Withdrawn) A compound of formula VIII:

wherein  $R^2$ ,  $R^3$ ,  $R^4$ , r, W, X, Y and Z are as defined in Claim 1; or a salt or stereoisomer or protected derivative thereof.

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- 39. (Original) A pharmaceutical composition comprising a pharmaceutically-acceptable carrier and a therapeutically effective amount of a compound of any one of Claims 1 to 33.
- 40. (Withdrawn) A method for treating a mammal having a medical condition alleviated by treatment with a muscarinic receptor antagonist, the method comprising administering to the mammal a therapeutically effective amount of a pharmaceutical composition comprising a pharmaceutically-acceptable carrier and a compound of Claim 1.
- 41. (Withdrawn) The method according to Claim 40, wherein the medical condition is overactive bladder.
- 42. (Withdrawn) A method of antagonizing a muscarinic receptor in a biological system or sample, the method comprising contacting a biological system or sample comprising a muscarinic receptor with a muscarinic receptor-antagonizing amount of a compound of Claim 1.
- 43. (Withdrawn) A method of treating overactive bladder in a patient, the method comprising administering to the patient a therapeutically effective amount of a pharmaceutical composition comprising a pharmaceutically-acceptable carrier and a compound of any one of Claims 1, 20, 25, 30, 31, 32 or 33.

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44. (Original) A process for preparing a compound of formula I:

$$(R^{a})_{m} \xrightarrow{O} N(R^{e})_{2}$$

$$(R^{d})_{r} \xrightarrow{W-X}$$

$$(R^{b})_{0} \qquad (R^{c})_{0}$$

$$(R^{c})_{0} \qquad R^{3}-O$$

I

wherein  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^a$ ,  $R^b$ ,  $R^c$ ,  $R^d$ , m, n, p, q, r, W, X, Y and Z are as defined in Claim 1; or a pharmaceutically-acceptable salt or solvate or stereoisomer thereof; the process comprising reacting a compound of formula Va:

$$(R^{a})_{m}$$
 $N(R^{e})_{2}$ 
 $N-(CH_{2})_{a}-(O)_{b}-(CH_{2})_{c-1}$ 
 $(R^{b})_{a}$ 

٧a

or a salt or stereoisomer or protected derivative thereof; with a compound of formula VIII:

$$\begin{array}{c} R^2 \\ \downarrow \\ HN \end{array} \begin{array}{c} (R^d)_r \\ N - CH_2 \end{array} \begin{array}{c} W - X \\ Z \end{array}$$

VШ

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or a salt or protected derivative thereof; and a reducing agent to provide a compound of formula I, or a pharmaceutically-acceptable salt or solvate or stereoisomer thereof.

- 45. (Original) The process of Claim 44, wherein the process further comprises the step of forming a pharmaceutically-acceptable salt of the compound of formula I.
  - 46. (Original) The product prepared by the process of Claims 44 or 45.